

Fiche Synthétique de Projet du réseau REUSE INRAE

Managing Environmental Hotspots and Transmission of AMR (MEHTA)

Type : INSERM/ANR

Période d'activité : 7/2023-6/2026

Partenaires :

Partenaires principaux:

- INRAE
- CHU Besancon

Informations/Site web/Contact : ed,topp@inrae.fr

Résumé : Antimicrobial resistance is a crucially important public health challenge. Climate change is going to reduce the availability of water for crop growth in many parts of the world, including in France. Recognizing this, the Government of France's Priority Research Program on antimicrobial resistance under the France 2030 program has, through the Agence National de Recherche, funded the MEHTA project. This project aims to assess the dynamics of antimicrobial resistance in crop production systems irrigated with reused municipal wastewater, or fertilized with biosolids or animal manures. Specific objectives of the project include 1. Evaluate the burden of microbial and chemical (eg. antibiotic) contaminants in food crops, and how these vary with exposure to fecal contaminants; 2. Evaluate the impact of various tertiary treatment methods on the microbial and chemical composition of wastewater effluent; 3. Evaluate the potential selection of antimicrobial resistance in environmental bacteria by chemicals entrained into crop production systems; 4. Evaluate the potential transfer of antimicrobial resistant bacteria or genes carried in crop-based foods into the human gut microbiome using an ex vivo gut model.

Structure du projet/WPs : WP0. Coordination of the project. WP1. Microbial and chemical contaminants of crops irrigated with wastewater. WP2. Validation of methods for decontaminating waste streams. WP3. Contamination of food products - consequences in the gut microbiome. WP4. Soil No Effect Antibiotic Concentrations. WP5. Knowledge transfer

Axe(s)/Domaine(s) d'applications(s) du réseau/TRL : Axe Risques